PENTODE with variable mutual conductance for use as R.F. amplifier, I.F. amplifier and mixer in carradio sets. The tube can directly be operated from a 6 V or 12 V storage battery

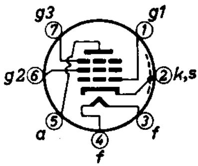
PENTHODE à pente variable pour l'utilisation comme amplificatrice H.F., amplificatrice M.F. et comme tube mélangeur dans récepteurs autoradio. On peut faire fonctionner le tube directement d'un accumulateur de 6 V ou de 12 V

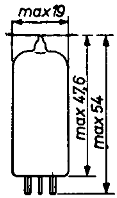
PENTODE mit veränderlicher Steilheit zur Verwendung als HF-Verstärker, ZF-Verstärker und als Mischröhre in Autoempfängern. Die Röhre kann direkt von einer 6 V oder 12 V Batterie betrieben werden

Heating : indirect. Parallel or series supply
Chauffage: indirect. Alimentation série ou parallèle
Heizung : indirekt. Serien- oder Parallelspeisung

V_f = 6,3 V
I_f = 300 mA

Dimensions in mm
Dimensions en mm
Abmessungen in mm





Base, culot, Sockel: MINIATURE

Capacitances
Capacités
Kapazitäten

C_a	=	4 pF
C_{g1}	=	6,5 pF
C_{ag1}	=	0,015 pF
C_{g1g2}	=	3 pF

Operating characteristics as R.F. or I.F. amplifier
Caractéristiques d'utilisation comme amplificateur H.F. ou M.F.
Betriebsdaten als HF- oder ZF-Verstärker

V_a =		25			12,6		V
V_{g2} =		6,3			6,3		V
V_{g3} =		0			0		V
V_{g1} =	-0,7[1])	-3,5	-5	-0,7[1])	-3,5	-5	V
I_a =	3,3	-	-	3	-	-	mA
I_{g2} =	0,95	-	-	1,1	-	-	mA
S =	2100	210	105	1900	190	95	µA/V
R_i =	50	-	-	150	-	-	kΩ
R_{eq} =	5	-	-	5,5	-	-	kΩ

V_a =		12,6			6,3		V
V_{g2} =		3,2			3,2		V
V_{g3} =		0			0		V
V_{g1} =	-0,7[1])	-2,5	-4	-0,7[1])	-2,5	-4	V
I_a =	1	-	-	1	-	-	mA
I_{g2} =	0,35	-	-	0,4	-	-	mA
S =	1100	110	55	1000	100	50	µA/V
R_i =	200	-	-	70	-	-	kΩ
R_{eq} =	7	-	-	8	-	-	kΩ

V_a =		6,3		V
V_{g2} =		1,6		V
V_{g3} =		0		V
V_{g1} =	-0,7[1])	-2,5	-3,5	V
I_a =	0,4	-	-	mA
I_{g2} =	0,15	-	-	mA
S =	500	50	25	µA/V
R_i =	200	-	-	kΩ
R_{eq} =	15	-	-	kΩ

[1])Obtained by grid current biasing; R_{g1} = 10 MΩ
Obtenu par moyen de R_{g1} = 10 MΩ
Erhalten mittels R_{g1} = 10 MΩ

Operating characteristics as mixer (R.F. voltage on g1, oscillator voltage on g3)
Caractéristiques d'utilisation comme tube mélangeur (tension H.F. à g1, tension d'oscillateur à g3)
Betriebsdaten als Mischröhre (HF-Spannung an g1, Oszillatorspannung an g3)

V_a	=	25			12,6			V
V_{g2}	=	6,3			6,3			V
R_{g3}	=	0,1			0,1			MΩ
V_{osc}	=	10			10			V_{eff}
V_{g1}	=	1)	-3	-4	1)	-3,5	-5	V
I_a	=	1,8	-	-	1,3	-	-	mA
I_{g2}	=	1,5	-	-	1,7	-	-	mA
S_c	=	600	60	30	550	55	27,5	µA/V
R_i	=	50	-	-	25	-	-	kΩ
R_{eq}	=	40	-	-	40	-	-	kΩ

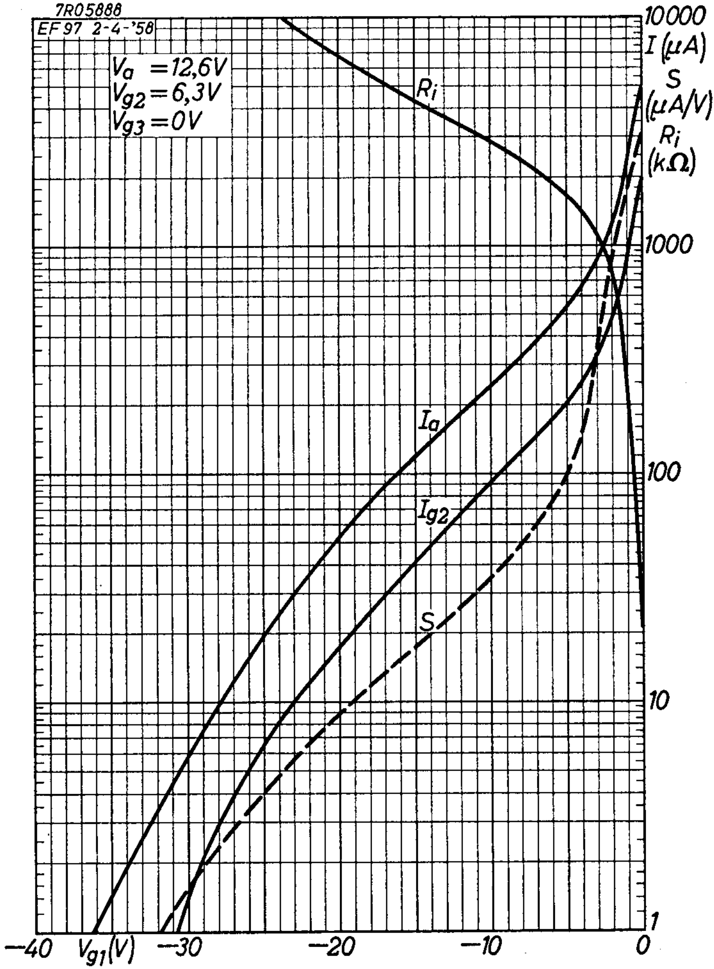
V_a	=	6,3			V
V_{g2}	=	3,2			V
R_{g3}	=	0,1			MΩ
V_{osc}	=	5			V_{eff}
V_{g1}	=	1)	-2,5	-3,5	V
I_a	=	0,45	-	-	mA
I_{g2}	=	0,6	-	-	mA
S_c	=	300	30	15	µA/V
R_i	=	30	-	-	kΩ
R_{eq}	=	55	-	-	kΩ

Limiting values
Caractéristiques limites
Grenzdaten

V_a	= max.	50	V
W_a	= max.	0,5	W
V_{g2}	= max.	50	V
W_{g2}	= max.	0,5	W
V_{g3}	= max.	50	V
I_k	= max.	15	mA
R_{g1}	= max.	22	MΩ
R_{g3}	= max.	5	MΩ
V_{kf}	= max.	50	V

1) See page 2; voir page 2; siehe Seite 2

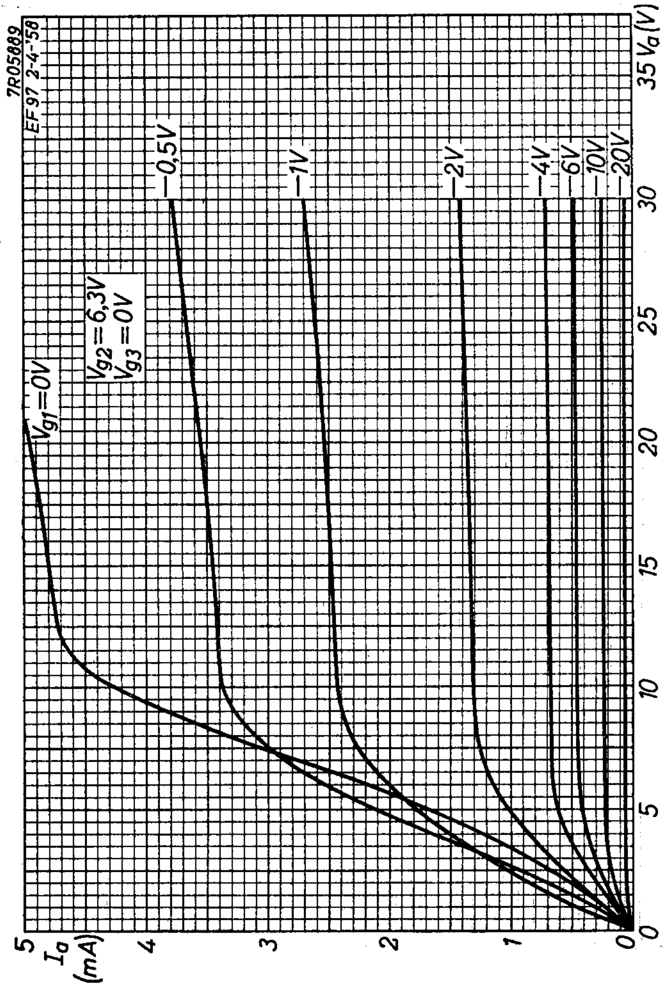
PHILIPS EF97



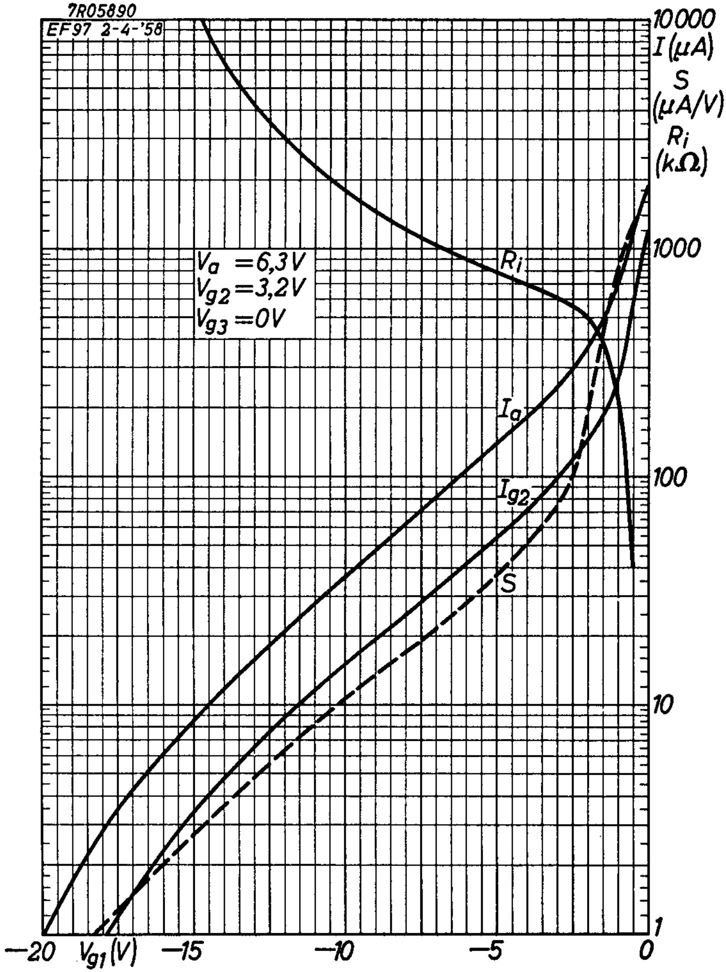
3. 3.1958

A

EF97 PHILIPS

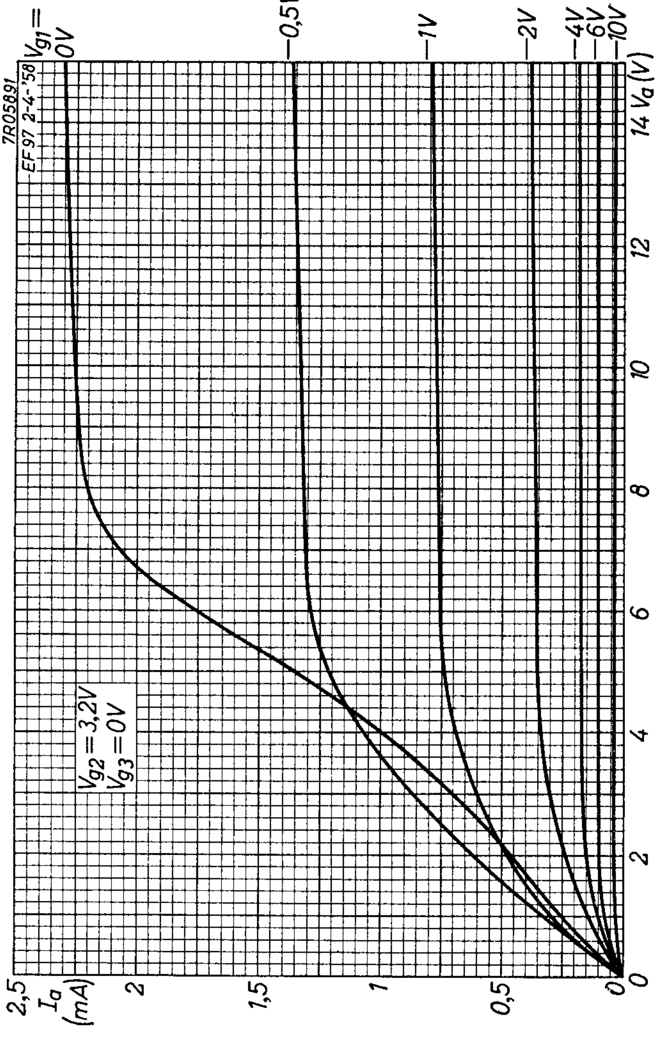


PHILIPS **EF97**

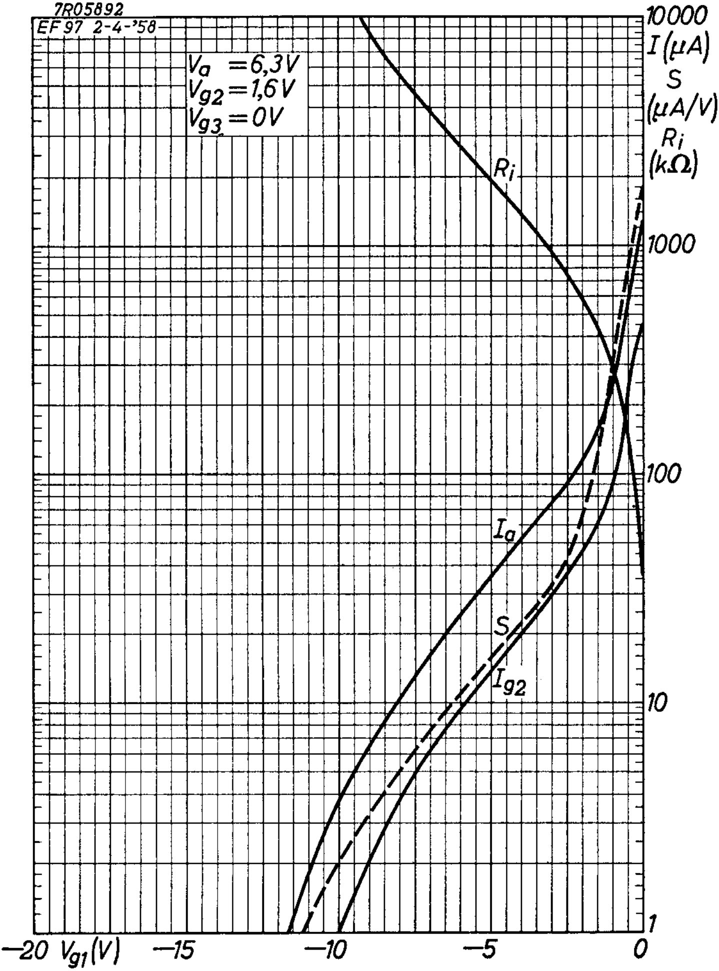


EF97

PHILIPS

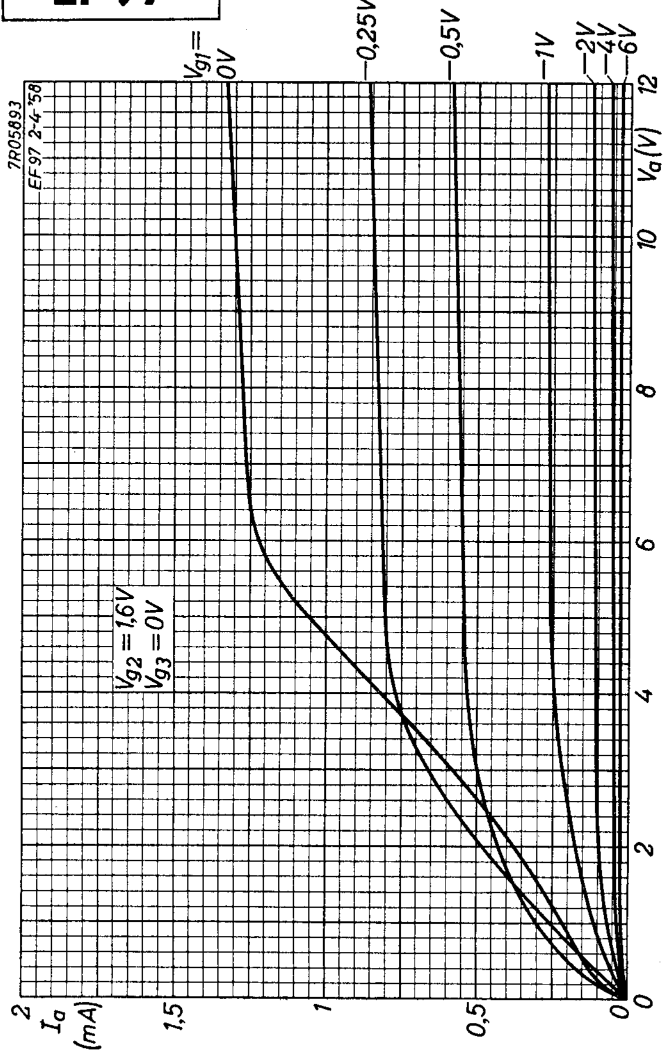


D

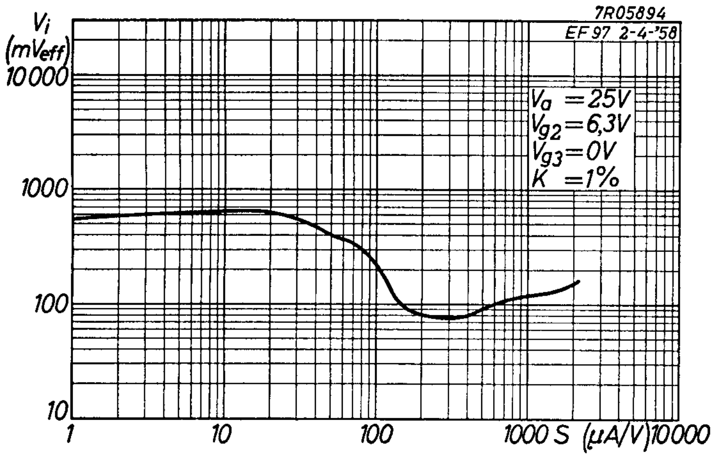

7R05892
EF 97 2-4-'58
V_a =6,3V
V_{g2}=1,6V
V_{g3}=0V
10000
I (µA)
S (µA/V)
R_i (kΩ)
1000
100
10
1
R_i
I_a
S
I_{g2}
−20
V_{g1}(V)
−15
−10
−5
0

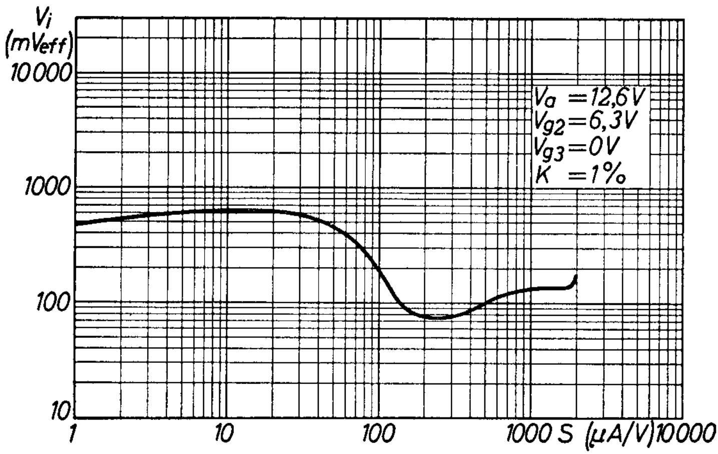
EF97

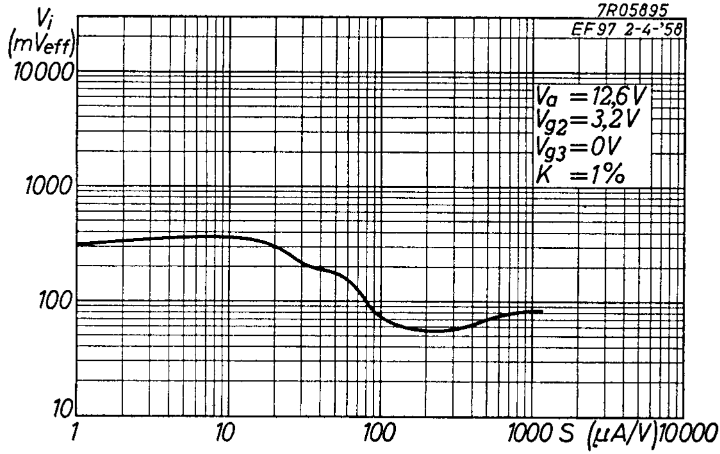
PHILIPS

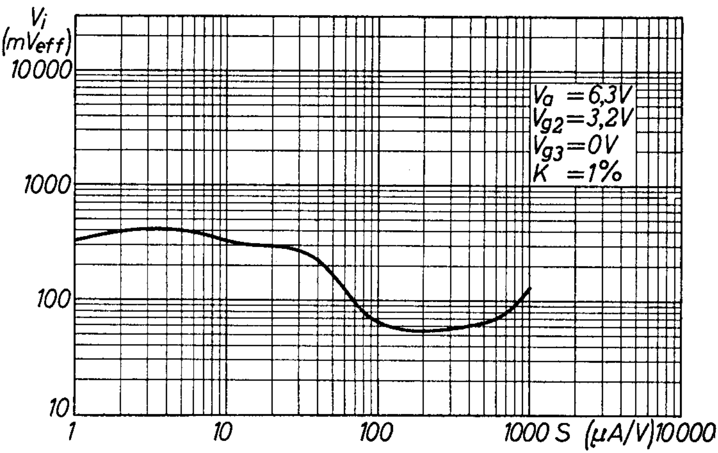


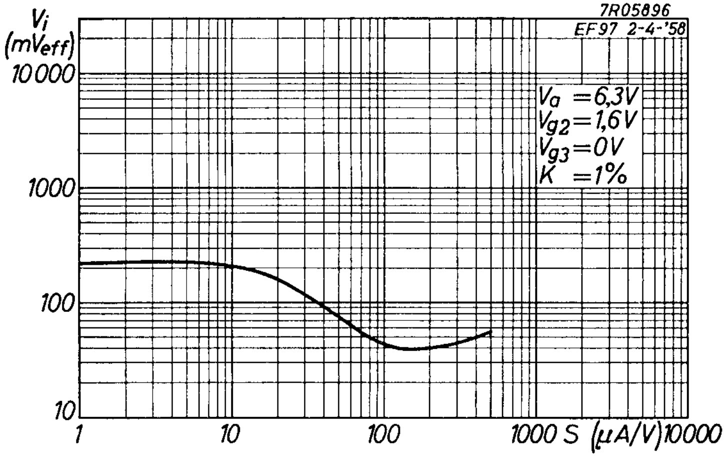
F

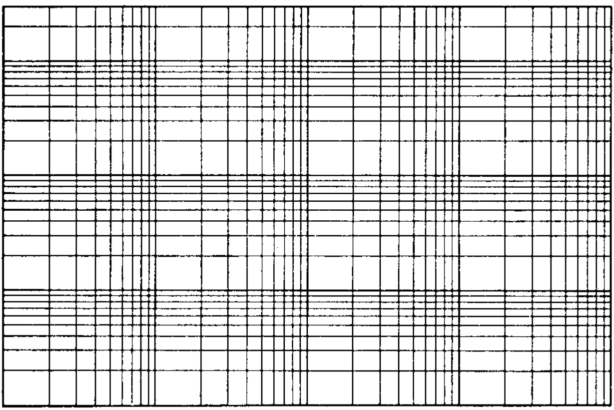

7R05894
EF 97 2-4-'58
V_i (mV_{eff})
10000
1000
100
10
1
10
100
1000 S (μA/V) 10000
V_a = 25V
V_{g2} = 6,3V
V_{g3} = 0V
K = 1%


V_i (mV_{eff})
10000
1000
100
10
1
10
100
1000 S (μA/V) 10000
V_a = 12,6V
V_{g2} = 6,3V
V_{g3} = 0V
K = 1%


7R05895
EF 97 2-4-'58
V_i (mV_{eff})
10000
1000
100
10
1
10
100
1000 S (μA/V) 10000
V_a = 12,6 V
V_{g2} = 3,2 V
V_{g3} = 0 V
K = 1%


V_i (mV_{eff})
10000
1000
100
10
1
10
100
1000 S (μA/V) 10000
V_a = 6,3 V
V_{g2} = 3,2 V
V_{g3} = 0 V
K = 1%


7R05896
EF97 2-4-'58
Vi
(mVeff)
10000
1000
100
10
1
10
100
1000 S (μA/V) 10000
Va = 6,3V
Vg2 = 1,6V
Vg3 = 0V
K = 1%



3.3.1958

PHILIPS

Electronic Tube

HANDBOOK

EF97

page	sheet	date
1	1	1959.04.04
2	2	1959.04.04
3	3	1959.04.04
4	A	1958.03.03
5	B	1958.03.03
6	C	1958.03.03
7	D	1958.03.03
8	E	1958.03.03
9	F	1958.03.03
10	G	1958.03.03
11	H	1958.03.03
12	I	1958.03.03
13	FP	1999.06.29